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ASSISTANCE IN THE RECONSTRUCTION OF
THE PRIVATE SECTOR

DP/AFG/90/003

AFGHANISTAN

Technical Report: Leather and Tannery*

Prepared for the Government of Afghanistan
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

Based on the work of Jaroslav Cabak
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* This document has not been edited.

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EXPLANATORY NOTES

Currency

The monetary unit of Afghanistan is the Afghani (afs). During the period covered by this report, the official value of the Afghani in relation to the US Dollar (US\$) was initially 55 afs (until April 1991) and laterly 586 afs.

Technical Abbreviations:

Square foot	sqft
Pair of shoes	pair
Pieces	pcs
Million	mill

ABSTRACT

Project DP/AFG/90/003/11-51 was established in the reconstruction of the private sector in leather processing and leather products manufacturing branch in Afghanistan.

The purpose of the consultancy was to support the leather goods manufacturing sector, including the tanneries and the producers of footwear, to improve the quality of their products through the adoption of improved manufacturing methods.

The duration of the assignment was two and a half months.

Following research into, and analysis of the leather processing and leather products sector, it is considered that this sector could be improved rapidly.

The production of leather goods has real potential to be increased through the introduction of basic machinery, equipment and tools. If the quality can be raised great demand can be expected both from Afghanistan and abroad.

The footwear producers do not meet the demand of the domestic market, or that from abroad. Very low productivity, particularly in the lasting section of production, is a constraint. New machinery as well as equipment and selected tools, is recommended.

At present footwear production in Afghanistan will utilise cemented construction of shoes and injection moulding technology.

Leather in the wet blue and pickled stages will continue to be dominant in tanning in the near future. This will continue due to the lack of chemicals and machinery for finishing leather, but most of all due to the shortage of energy and skilled workers. Of the seven working tanneries, only three have the capability to make finished leather.

Enterprise profiles have been compiled for selected enterprises and the entrepreneurs have been informed of the findings, including the deficiencies and limitations of current production. In addition advice was given on the design of the layout which should be used in factory. Technical instruction and recommendations have been delivered after discussion with these entrepreneurs.

INTRODUCTION

The Government of Afghanistan believes that reviving the private sector will improve the rate of economic growth and development.

The leather processing and leather products manufacturing firms are among the most valuable of those in the private sector. The entrepreneurs are anxious to improve the efficiency of their firms, and to increase the output of their products in order to meet domestic demand, and to satisfy the export market.

The Expert attached to the Central Office for the Development and Promotion of Private Investment (CODAPI), co-operating with a CODAPI counter-part, under the supervision of the Chief Technical Adviser. After initial research, it was found that it was necessary to modify slightly the plan of action for the Expert; revisions were made and agreed.

The objectives of the consultancy were as follows:

- to visit leather goods manufacturers including tanneries and footwear producers, in order to select those worthy of technical and marketing assistance (and to make complete profiles of those selected)
- to establish 'Technical Instruction Sheets' for each of the main deficiencies identified and to inform the entrepreneurs of these deficiencies and limitations to production
- to demonstrate how these enterprises could optimise the use of tools and equipment and advise on specifications for tools and equipment
- to identify opportunities related to the manufacture of export oriented products
- to assist in the redesigning of products
- to advise leather goods producers of managerial practices including marketing.

The companies visited were as follows:

- six tanneries
- five footwear producers
- two leather goods manufacturers

Visits were made to make the enterprise profiles, and simultaneously to conduct on-the-spot consultancy.

A. PROJECT ACTIVITIES

In conjunction with other sub-projects of Project DP/AFG/90/003 visits were made to leather manufacturers and footwear producers and tanneries.

The list of enterprises to be visited was prepared by CODAPI. The following were visited:

Tanneries

Shirkati Dari Barsakh Tannery
Sédiqyar Tannery
Darwish Tannery
Afkara Tannery
Naseer Tannery
AHO Tannery

Footwear Producers

AHO Shoes
Marshal Company
Milli Shoe Factory
Darai Turkmany Shoe and Boot Company
ISEA Company

Leather Goods Manufacturers

BARICOTE Leather Works Industry
Keshvar Leather Goods

In each instance a special questionnaire was completed, in order to obtain information about the enterprise. This questionnaire is designed to obtain information about a company's financial status, start-up date field of activity, products, new projects, staffing and problems identified both by the company and by the Expert.

Using this information, enterprises considered worthy of assistance have been selected. The criteria for selection, was not only current production and the possibility of supplying material and components, but also the capabilities of the company to supply the domestic market and to satisfy export demands with variety as well as in quantity terms.

The following progressive companies have been selected for further assistance:

- Sediqyar Tannery
- AHO
- Dari Turkmany Shoe Company
- Marshal Company
- ISEA Company
- Baricote

For the above companies the Enterprise questionnaire was filled in, and simultaneously the 'Technical Instruction Sheet' was compiled indicating each major deficiency and how to address it.

Technical and marketing assistance have been aimed at identifying the bottlenecks in production and quality of the products. On-the-spot advice about specifications for tools, equipment and machinery as well as accessories were given. Basic assistance in managerial practices, mainly in conjunction with new layout recommendations was given in situ.

In addition a small permanent exhibition has been created in the UNIDO/CODAPI Project Office. The objective of this exhibition is to introduce essential materials, accessories and fittings for leather goods. Catalogues of machinery and equipment for footwear makers as well as fashion magazines were made available also.

Six entrepreneurs took part in a discussion held at the Project Office.

To get more details about leather goods manufacturing instruction a video tape was prepared and performed.

In addition in accordance with the overall Project Plan, two seminars were held to discuss general management business and business planning. Three entrepreneurs were selected to take part in this seminar.

It should also be noted that there was collaboration with representatives of Project DP/AFG/90/004. The Expert attached to DP/AFG/90/003 gave assistance to the handicrafts project (004). In particular the expert designed a plan of action for the setting-up of a Training Centre for Leather Goods, preparing specifications for requirements.

B. FINDINGS

B.1 Leather Processing

As mentioned above, six tanneries have been visited in Kabul.

The problems encountered can be classified as follows:

- raw materials supply
- processing chemicals supply

At present the situation is dominated by a shortage of raw materials - there is a desperate lack of skins for leather production in the tanneries. This shortage is due to a lack of transport, a problem which is in its third year. Although there are sufficient green skins in Afghanistan to supply the tanneries, there are problems in transporting them from the north of the country - the area of production to the tanneries in Kabul. As a result most of the skins are sold instead to foreign buyers; it is estimated that one million pieces of hides have been exported to Pakistan and Iran during 1990.

Similarly there is a lack of chemicals with which to process the hides (vegetable tanning materials). There is a lack of chemicals generally, and also a permanent shortage of special performance chemical.

Tanneries in Kabul are processing nearly 100% goat and sheep semi-processed leather - wet blue, pickled, a small percentage of crusts are processed also. In 1990, 3,000,000 pieces of skin were processed - 60% sheep skins and 40% goat. This equates to 21,000,000 sqft of leather in the wet blue and pickled stages. The present capacity of the tanning industry in Afghanistan is 4,450,000 pieces, equating to 31,150,000 sqft.

The total output of leather was destined to be exported. The purchase price of greenskins during 1990 was:

- goat 1800 afs per piece
- sheep 2200 afs per piece

The price of a wet blue being on average US\$3.

In 1991 the figure had risen to:

- goat 2800 afs
- sheep 3100 afs

The tanneries are not basically interested in changing production to produce finished leather. The production of well produced, good quality leather involves skilled workers, specialised machinery, special chemicals, and a good energy

and water supply. These conditions have not existed in Kabul for three years. The AHO Leather and Shoe Factory, and in the near future Afkara Tannery, are the only companies which will be able to make finished leather in Kabul.

The AHO Leather and Shoe Factory is re-opening its finished leather processing unit after a two year compulsory break. A shortage of chemicals, raw materials has limited production to 40% of the capacity.

The quality of the semi-processed leather - wet blue and pickled, is of average quality, because the certain chemicals are not used, or are substituted with inferior or incorrect chemicals. The problem is greatest for the production of naturally tanned leather.

A shortage of vegetable tanning materials, imperfect technology, lack of machinery (including Drums) insufficient water supply (for soaking and washing) mean the leather produced is below average quality - having a bad smell and hard texture.

The method of processing used in Afghanistan cannot yield leather of a good quality.

The leather produced has to be infused again and the surface has to be glazed using a stone (this operation being conducted manually). This operation is conducted in the leather goods workshop, not in the tannery.

Some leather is vegetable tanned, most of this comes from the small tanneries in Mazar-i-Sharif. A small amount is produced in Kabul - 50,000 pieces of camel hide (accounting for 40%) and goat skin (60%).

TANNERIES PERFORMANCE BRIEF

Shirakati Dari Barsakh Tannery

Product wet blue, pickled leather

Raw Material goat 50%
sheep 50%
skins supplied from Northern Afghanistan 30%
(preserved)
skins supplied from Kabu' 70%
(green)

Machinery 10 drums (capacity 1000 pieces)
2 fleshing machines (out of order)

Employees 100

Working Process soaking - 10 days
liming and de-hairing - 4 days
tanning - 18 hours
all operations are manual

Quantity 3000 pieces/day

Wages skilled 35,000 afs
unskilled 15,000 afs
children 4,000 afs

Sadiqyar Tannery

Product wet blue, pickled, crust 5%

Raw Material 50% Kabul
50% North Afghanistan
No raw material problems
No chemical problems - 100% imported from
Pakistan, Iran and England

Employees 150

Machinery flashing machine (operational) and 6 drums
workshop

Working Process relatively well organised
soaking in soaking pots
liming in drums
de-hairing

Quantity 3,500 pieces per day

Pricing purchase price per green skin - 3,000 afs/7sqft
wet blue - 4,500/unit

Darwish Tannery

Product wet blue, pickled leather

Raw Materials goat skin 50% sheep 50%

Machinery 2 fleshing machines
10 drums

Employees 60

Working Process low level of mechanisation
output - 3,500 pieces/day

Afkara Tannery

Product fur

Raw Materials severe shortages of skins and furs
the same problem with chemicals

Machinery 7 drums
1 fleshing machine
4 soaking pits
3 woolskin fleshing machines
13 vats
1 buffing machine
1 iron press

Employees 35

Working Process 200 pieces/day of fur, capacity 700 pieces/day
no leather is produced, although the capacity is
Quantity 3,000 pieces

Naseer Tannery

Product vegetable tanned camel and goat skins, poor
quality, hard with an unpleasant smell

Raw Materials green skins from Kabul slaughter house

Machinery no mechanised machines only 6 soaking and liming
pits, and 4 tanning pits

Employees 3

Working Process elementary tanning process as follows:
soaking - one day
liming 40 days
de-hairing and fleshing, washing, wringing,

tanning 16 days
washing and application of vegetable oil and
drying in open air

Tanning material is THORNbark or peel from
pomegranate

No drums or vats exist for use

Insufficient water supply, dirty working
conditions

Quantity 150 pieces /day

Pricing green camel skin - 8,000 afs/piece
green goat skin - 2,800 afs/piece

finished leather camel - 12,000 afs/piece
goat - 5,000 afs/piece
vegetable tanned

AHO Leather and Shoe Factory

Product camel chrome tanned leather

Raw green skins from Kabul slaughter house
Materials a general shortage of skins

Machinery 16 drums
2 fleshing machines
2 shaving machines
3 staking machines
spraying cabin
embossing press
measuring machine

All machines are in reasonable condition
70% - Czechoslovakia, 30% - Germany

Employees 80

Working at present production is 40% of capacity
Process due to skin shortages
Quantity output 200 pieces/day

Two new tanneries have been constructed, but these are not
functioning as there is no suitable drainage, the factories
being located in residential areas.

One tannery - Complex Leather and Shoe - has been planned.

The expert anticipates that the capacity of these three
tanneries will be 1,300,000 pieces per year.

B.2 Footwear Processing

The Market

There are a variety of footwear articles in existence in Kabul which are made domestically. These can be classified as follows:

Leather Uppers

- fashion shoes - men and women, mostly imported from Taiwan
- walking shoes - for men and women which are old fashioned, heavy and made of inflexible leather, of a very basic design. The accessories are out-of-date
- working shoes - similar to walking shoes in quality
- military boots - of basic design and construction

Artificial Leather Uppers

- sports shoes
- ladies
- children's shoes

PVC Sandals and Slippers

- various types and sizes of a basic design, mostly made in Afghanistan.

The soles of the shoes are mainly made of PVC or hard rubber.

In terms of price, walking shoes and sports shoes are the cheapest available, starting at 4,000 afs per pair. Ladies luxury shoes made in Afghanistan cost approximately 8,000 afs per pair, in contrast to those form abroad which cost in the region of 13,500 afs.

Shoe Production in Kabul

There are five dominant producers of footwear in Kabul. The total production is 8,30,000 pairs. The production from small workshops accounts for 200,000 pairs.

Production can be divided as follows:

- fashion shoes	5%
- walking shoes	57%
- leather sandals	19%
- sport shoe	9%
- military shoes	10%

In addition approximately 1,200,000 pairs are produced from PVC components were produced last year in various small workshops.

There are nine private shoe shops in Kabul.

The production of footwear in 1990 is shown in the annex.

Afghan producers mainly use injection moulding technology, either for direct soling, or for the production of sole units. The basic materials of the soles is PVC. The use of injection molding has been rapidly taken up; many of the companies use machinery made in Afghanistan. The reasons for this rapid uptake of this technology are as follows:

- injection moulding is a fast process
- the raw material - PVC is relatively cheap
- the process does not require skilled labour

This process, however, produces footwear which is heavy, with non-durable soles (durability being a major requirement in Afghanistan). In addition this technology uses expensive moulds, it is therefore difficult to change these, and thus the styles of the footwear produced.

Raw Materials

The processing of footwear with leather uppers is restricted by a lack of raw materials. At present AHO Leather and Shoe Factory is manufacturing camel hides, but only 3,000 sqft daily, consequently this leather must be imported. Currently leather is imported from India and Pakistan, however, this is of a poor quality with a poor surface (it can only be used for walking and work shoes). The price of domestic camel hides is about a third cheaper than imported.

The comfort of the footwear produced is affected also by a lack of raw materials. No natural materials are available and as a result artificial linings are employed. In addition the appearance of the footwear is affected by the use of poor accessories.

The comfort of the shoe is also affected by the auxiliary materials used. The in-soles are poor quality, again hard and inflexible and often very thick; in some instances these may even be made of wood. The same problems apply to the

fitter - these are often made of waste materials for example pieces of leather packed together which does not give adequate support.

Machinery, Equipment and Tools

The development of the footwear industry in Afghanistan is constrained by the lack of advanced machinery. The major stage in the production of footwear - lasting - is still conducted by hand. The manual approach used in lasting, not only means that production is slow, but also the finished product is of a poor quality, the shape of the upper is inaccurate.

The closing and cutting sections are relatively well equipped with machinery, however, there are certain items which should be added or replaced, for example new cutting knives, knife bending machines to shape the knives, and cutting blocks.

Not only is there a lack of good machinery for production, production is hampered by the lack of mechanisation within the factories to facilitate movement of pieces from one part of the factory to another. In addition there are no shelves or mobile racks to accommodate the finished goods, and the parts during production (conveyors).

Unsuitable tools are being used at present, and it is considered vital that these are improved.

Productivity

Productivity is affected not only by the lack of raw materials and poor equipment, but also by the working conditions. The lighting is poor and there are insufficient tables and chairs of good quality to facilitate optimum work output.

The productivity of the labour varies, from approximately 3.5 pairs/day/man to 7.5 pairs/day/man.

The productivity is influenced by the choice of staff. Many factories use children, 70% of the workforce is made up of children. As a result the workforce is unskilled. The use of children is great in order to keep the cost of wages low.

Quality

The quality of the shoes which are produced in Afghanistan is basically poor. The only exception is ISEA which produces ladies fashion shoes and Turkmany which produces shoes and boots (including sport shoes). The quality of the products cannot be good as the starting material for the uppers is very poor and is unsuitable. In addition the lasts used are out of order, poor accessories and soles are used, there are

many defects. This is not helped by the poor packaging used and not aided by the manner in which they are sold.

3.3 Leather Goods Manufacturing

The Market

A variety of leather goods were produced in 1990 in Kabul as follows:

Ladies handbags	15,000 pieces
Traveling bags	3,000 "
Small leather goods	45,000 "
Belts	15,000

All of this production was of handicrafts standard and was made from vegetable tanned leather.

Small defects are to be found in these goods such as bad riveting, nonworking zippers, undersized buckles and rings. etc. In addition, handicraft accessories that could be used are not being used on these goods. The construction is simple; for example pockets have only a flap cover, and lining when used is glued rather than sewn leaving open seams. Nevertheless, the goods are readily marketable abroad, mainly the ladies handbags and the small leather goods.

The prices for the ladies handbags range between Afs 12,000 and Afs 24,000, and the prices for traveling bags are between Afs 18,000 and Afs 32,000.

Raw Materials, Auxiliary Material and Fittings

As mentioned above, the main top material is vegetable tanned goat leather or cattle hide. For small leather goods, like wallets, sheep leather is used. Original raw material comes from Mazar i Sharif and is not of the top quality. It must be glazed and worked over in the work shops. Auxiliary material such as thread and glue is generally of poor quality; the same is true of the zippers, fasteners and other fittings.

Machinery

Except for the sewing machines which are ancient, the entire production is being produced by hand. The heaviest operation is the hand glazing and pressing of the leather. Operations such as cutting, cementing, folding and joining are also carried out by hand. There is no mechanization.

Working Process

The workers do not work in a logical sequence in a line but rather in nest-like groupings. The use of appropriate tools

and machinery should readily improve the production. There is also a lack of proper handling equipment for passing of the goods in process from worker to worker, group to group.

Working Conditions

The working conditions are generally elementary. Lighting tends to be inadequate and working spaces are crowded.

Quality

Defects in the products are obvious. The leather is rarely tanned properly and often smells. Stitching is irregular.

C. CONCLUSIONS AND RECOMMENDATIONS

There follows here the general conclusions. Detailed conclusions and recommendations are included in annexes with respect to the various topics.

-- For the next two or three years, the tanneries will mostly continue only with the semi-finished leather they are using at present.

-- Leather manufacturers should expand their operations to include processing and production of goods to make more efficient use of their resources. A pilot project for finishing first quality leather is to be set up at the Aho Leather and Shoe Factory.

-- In the present production, attention should be given to controlling and standardizing the procedures followed and the use of chemicals and other materials.

-- Much improvement is possible in the present way of working, particularly in the handling of materials, and in the working conditions such as lighting, water drainage, and enlarged working spaces.

-- For shoes, sizing of lasts should be conformed to the footsizes of the local people who buy the shoes, and not based on lasts imported from abroad where foot sizes are different; thus a measuring system for the domestic market should be introduced.

-- In the design of shoes, attention needs to be given to future styling as well as the production for the current season.

-- Polyurethane soles as well as PVC soles should be used in the cementing technology .

-- The immediate introduction of lasting machines is recommended to eliminate the bottleneck which presently exists as a result of lasting being done by hand.

-- Patterns, cutting dies, shoe lasts, stiffeners, unit soles (from PU and TR) and range of fittings may be centrally manufactured in Kabul province at least. In establishing regional components manufacturing units, delivery terms and cooperative arrangements may be improved.

-- The maintenance of quality is the key need of the shoe manufacturers; the introduction of quality control systems should be a first priority goal of management; pilot programs are to be undertaken at the Aho Factory and the Turkmeny Company.

-- The shoe companies now plan only for day to day operations; real long term planning is lacking; it is recommended that factories make long term plans covering all phases of their activities beginning with realistic marketing plans and working back through each stage of operations to procurement of the necessary raw materials

-- With leather goods other than shoes, the handicraft look should be maintained but the quality should be improved.

-- Domestic handicraft materials should be used on leather goods in true Afghan fashion so that they have an authentic Afghan appearance.

-- The immediate introduction of cutting machinery, modern sewing machines, and proper tools is recommended to achieve the quality required for increasing the market for Afghan leather goods.

-- A training and demonstration centre fitted out with the needed machinery, tools, etc. should be opened as soon as possible.

D. TABLES

Tanneries which are functioning in Kabul / 1990 /

Company	Output pcs	Capacity pcs	Employees	Production
Shirakati Dari	3 750 000	1 100 000	100	wet blue pickled
Sedigyar Co.	1 000 000	1 000 000	150	wet blue pickled crust
Darwish Co.	1 000 000	1 000 000	60	wet blue pickled
Afkara Co.	-	800 000	35	wet blue crust
	120 000	200 000		fur
Aho Co.	-	140 000	80	hides
Nasser Co.	50 000	50 000	3	vegetable tanned leather

Footwear processing enterprises in Kabul / 1990 /

Company	Registered Capital	Total investment	Turn over	Employees	Production
	million afs	million afs	million afs		pairs
Aho Co.	60	150	906	220	224000 shoes
Marshal Co.	1	62	800	120	130000 shoes 160000 soles
Milli Co.	5	100	1250	364	270000 shoes
Turkmany Co.	5	181	280	85	185000 shoes 150000 soles
Isea Co.	0,6	30	158	30	21000 shoes